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Abstract

5 Low-coherence interferometric apparatus for light-optical scanning of an object (18) with a low-coherence interferometer (6) comprising a low-coherent light source (7), a reference reflector (21) and a detector (25),
10 wherein light emitted by the light source (7) is split into two optical paths (11,12), a first fraction of the light being irradiated as measurement light (16) onto the object and a second fraction of the light being irradiated as reference light (22) upon the reference
15 reflector (21), and wherein, after reflection on the object (18) or the reference reflector (21) respectively, the measurement light (16) and the reference light (22) are combined at a beam junction (10) in such a manner that an interference signal which contains information
20 about the reflection intensity of the measurement light, relative to the respective scan position is generated.

In order to enable a very fast scan, a variable wavelength selection device (30) is positioned in the
25 light path of the detection light between the beam junction (10) and the detector (25). A wavelength-dependent selection of the detection light (24) is performed by this device in such a manner that the detector (25) selectively receives preferentially light
30 with wavelengths which correspond to a predetermined sequence of wavenumbers k . For varying the scan position along the scan path (27) different sequences of wavenumbers k can be set.

35 Fig. 1.